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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/613,331	07/07/2000	MASAMOTO TAGO	WN-2205	9072

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EXAMINER

HOANG, QUOC DINH

ART UNIT PAPER NUMBER

2818

DATE MAILED: 01/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/613,331

Applicant(s)

TAGO ET AL.

Examiner

Quoc Hoang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-15 and 18-22 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 16 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 12 are rejected under 35 U.S.C. 102(b) as anticipated over Yamazaki et al. (U.S. Patent No. 5,300,798).

Regarding claims 1 and 12, Yamazaki et al., Figures. 1-7, and related text on col. 1-15 which discloses a system semiconductor device comprising: a system LSI cell portion which includes a plurality of functional blocks *r* for realizing specific functions, each of the functional blocks *R* serving as a unit circuit and being arranged on a semiconductor chip 1 (col. 12, lines 25-55 and Fig. 5B); and a global wiring layer which has a wiring layer *AL* on a semiconductor substrate and which is laminated with the system LSI cell portion such that the functional blocks *r* are electrically connected to each other (col. 13, lines 10-45 and Fig. 6A).

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Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-4, 7-11, 13- 15 and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. (U.S. Patent No. 5,300,798).

Yamazaki et al., Figures. 1-7, and related text on col. 1-15 which discloses a system semiconductor device comprising: a system LSI cell portion which includes a plurality of functional blocks r for realizing specific functions, each of the functional blocks R serving as a unit circuit and being arranged on a semiconductor chip 1 (col. 12, lines 25-55 and Fig. 5B); and a global wiring layer which has a wiring layer AL on a semiconductor substrate and which is laminated with the system LSI cell portion such that the functional blocks r are electrically connected to each other (col. 13, lines 10-45 and Fig. 6A).

Regarding claims 2-4, 8, 13-15 and 19, Yamazaki et al., discloses a first wiring layer AL2 formed on the semiconductor substrate , an insulating layer 81 formed on the first wiring layer, and a second wiring layer AL1 formed on the insulating layer 81 (col. 12, lines 25-55 and Fig. 5B). Though Yamazaki et al., do not disclose an adhesive layer formed on the insulating layer, it would have been obvious to a person of ordinary skill in the art to form the adhesive layer between LSI cell portion and the wiring layers in order to laminate the LSI cell portion and the

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wiring layers. Also, It would have been obvious to have bumps on the first wiring layer in order to electrically connect to an external circuit.

Regarding claims 7, 9, 18 and 20 Yamazaki et al., discloses the insulating layer 81 includes a via which electrically connects the first wiring layer AL2 with the second wiring layer AL1 (see Figure. 5B).

Regarding claims 10 and 21, Yamazaki et al., discloses the global wiring layer has at least one or more of the wiring layers AL1, AL2 and AL3 (see Figure. 6A).

Regarding claims 11 and 22, Yamazaki et al., discloses the global wiring layer has at least one or more of the insulating layers 81 and 88 (see Figure. 6A).

Allowable Subject Matter

6. Claims 5-6 and 16-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach an inner bumps is formed on the second wiring layer such that the space is formed between the LSI cell portion and the global wiring layer.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quoc Hoang whose telephone number is (703) 306-5795. The examiner can normally be reached on Monday -Friday from 8.00 AM to 5.00 PM.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms., can be reached on (703) 308-4910.

Quoc Hoang *QH*
Examiner
Group 2818


David Nelms
Supervisory Patent Examiner
Technology Center 2800